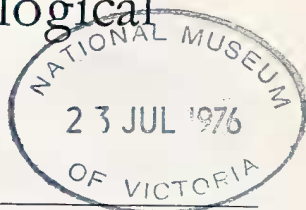


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A SPECIES OF *CHLOROMERUS* (DIPTERA: CHLOROPIDAE) SWARMING IN THE CANBERRA DISTRICT

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Dense, milling swarms of small insects were a conspicuous feature of the Canberra district during the closing weeks of the 1974-75 summer. Whenever present such swarms were located at considerable heights and usually in the lee of tall eucalypts, the tips of which they were evidently using as selected markers. These insects persisted in their activity under quite windy conditions, when their billowing movements created an illusion of smoke issuing from the treetops.

I had not previously witnessed this intriguing phenomenon during fifteen years' field work in this area and enquiries among my colleagues confirmed my impression that it was not of regular occurrence, locally. Nor had the insects been identified, for they were too small and too active to be observed effectively, even with the aid of binoculars, and the height at which they operated precluded ready sampling. Fortunately, however, a late swarm adopted a tree of Green Wattle (*Acacia mearnsii*) of more modest proportions, in my suburban garden at Lyneham, A.C.T., and with the aid of a very long-handled net, I was eventually able to secure a small sample.

This sample comprised 18 males and 7 females of a chloropid fly, identified as *Chloromerus* sp. near *striatifrons* (Becker), together with two specimens of an undetermined species of *Leptocera* (Sphaeroceridae). The latter were presumed to be strays that had been swept inadvertently from the wattle foliage.

Another swarm which I kept under weekly observations was on a plain near Lake George, N.S.W., and persisted for some 5 weeks from early May until frosty conditions brought an end to its activity. This swarm occurred in a semi-natural savannah woodland and was always observed at about 15 m above ground-level, near the crown of one particular member of a grove of Yellow Box (*Eucalyptus melliodora*), none of which was in blossom at the time. Flight activity was seen to commence at about 17.00 h (Eastern Standard Time) and to continue until shortly after sunset. However, swarming was dependent upon bright light or still weather and flight activity was often at its greatest under cool, overcast and quite blustery conditions. Considerable energy must then have been expended by these small flies in repeatedly regaining formation after dispersal by strong gusts.

Unfortunately, a quick perusal of the literature has failed to provide any information on swarming in Australian *Chloromerus* species or indeed on any aspect of their biology. However, flies of this family are predominantly plant-feeders and several comparatively well-known species (such as the Frigate Fly, *Oscinella frit*) are strongly gregarious, although they may not exhibit the same swarming behaviour.

The swarms reported here show many of the general characteristics mentioned by Haddow and Corbet (1961) in their informative summary. The *C. sp. near striatifrons* appears to be unusual in swarming under quite cool conditions. Also, no morning swarming was ever noted in this species. However, the low ambient temperatures of the early hours in the Canberra district doubtless inhibit any such activity.

The biological role of swarming in flies remains unclear. Some workers have pointed out that mating often commences within the swarm, while others maintain that although the phenomenon may have been based on sexual activity in the past, swarming is now merely a vestigial or ritual behaviour. In the present instance, the amount of time and energy expended by such flies in swarming strongly suggests that it still plays an important role in their biology. However, as pointed out by Oldroyd (1964), speculation at this stage of our knowledge is of little value and it is better to devote more of our time and energy towards observing and recording what flies actually do. It is therefore the sole justification for the present note.

Acknowledgement

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